

CLAIMS

10. (New) An apparatus for a sorting system comprising an activating member, a fastening bracket, and a discharge arm which at an end part is pivotally connected with the fastening bracket at a side of a conveyor, where the discharge arm by means of the activating member is adapted for being swung between a passive position approximately parallel to a side of the conveyor and a number of active angular positions in relation to the conveying direction of the conveyor, wherein the activating member comprises an electrically driven stepping motor or servomotor including a control unit being adapted for determining a pattern of motion and/or speed profile of the discharge arm.

11. (New) An apparatus according to claim 10, wherein the control unit is adapted for receiving at least one control signal from a number of sensors being adapted for determining the lateral and longitudinal position of an item on the conveyor, and which are operatively connected with the activating member.

12. (New) An apparatus according to claim 10, wherein the sensors comprise photoelectric cells placed above and/or along the conveyor.

13. (New) An apparatus according to claim 11, wherein the sensors comprise photoelectric cells placed above and/or along the conveyor.

14. (New) An apparatus according to claim 10, wherein the sensors comprise laser sensors placed above and/or along the conveyor.

15. (New) An apparatus according to claim 11, wherein the sensors comprise laser sensors placed above and/or along the conveyor.

16. (New) An apparatus according to claim 10, wherein the sensors comprise photoelectric cells and/or laser sensors placed above and/or along the conveyor.

17. (New) An apparatus according to claim 11, wherein the sensors comprise photoelectric cells and/or laser sensors placed above and/or along the conveyor.

18. (New) An apparatus according to claim 10, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

19. (New) An apparatus according to claim 11, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

20. (New) An apparatus according to claim 12, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

21. (New) An apparatus according to claim 13, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

22. (New) An apparatus according to claim 14, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

23. (New) An apparatus according to claim 15, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

24. (New) An apparatus according to claim 16, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

25. (New) An apparatus according to claim 17, wherein the stepping motor or servomotor comprises a pre-programmed control unit being adapted for utilizing the control signal from the sensors for determining a pattern of motion and/or a speed profile of the discharge arm.

26. (New) An apparatus according to claim 10, wherein the discharge arm is provided with a spoon-shaped front.

27. (New) An apparatus according to claim 11, wherein the discharge arm is provided with a spoon-shaped front.

28. (New) An apparatus according to claim 12, wherein the discharge arm is provided with a spoon-shaped front.

29. (New) An apparatus according to claim 13, wherein the discharge arm is provided with a spoon-shaped front.

30. (New) An apparatus according to claim 14, wherein the discharge arm is provided with a spoon-shaped front.

31. (New) An apparatus according to claim 15, wherein the discharge arm is provided with a spoon-shaped front.

32. (New) An apparatus according to claim 16, wherein the discharge arm is provided with a spoon-shaped front.

33. (New) An apparatus according to claim 17, wherein the discharge arm is provided with a spoon-shaped front.

34. (New) An apparatus according to claim 18, wherein the discharge arm is provided with a spoon-shaped front.

35. (New) A method for sorting by means of an apparatus according to claim 10, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

36. (New) A method for sorting by means of an apparatus according to claim 11, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

37. (New) A method for sorting by means of an apparatus according to claim 12, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

38. (New) A method for sorting by means of an apparatus according to claim 13, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

39. (New) A method for sorting by means of an apparatus according to claim 14, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

40. (New) A method for sorting by means of an apparatus according to claim 15, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

41. (New) A method for sorting by means of an apparatus according to claim 16, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor,
the items pass the sensors placed above or along the conveyor;
the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;
before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and
the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

42. (New) A method for sorting by means of an apparatus according to claim 17, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;
the items pass the sensors placed above or along the conveyor;
the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;
before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and
the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

43. (New) A method for sorting by means of an apparatus according to claim 18, wherein the sorting of items on the conveyor comprises:

the items are either weighed and/or quality/type graded before being placed on the conveyor, or weighed and/or quality/type graded on a first part of the conveyor;

the items pass the sensors placed above or along the conveyor;

the sensors register the size and/or lateral and longitudinal position of the items on the conveyor, and at a same time, the sensors provide a control signal to the control unit of the apparatus;

before the items reach the discharge arm, the discharge arm is turned from a passive position to an active angular position in relation to the conveying direction of the conveyor; and

the discharge arm leads the items to a predetermined discharge position along the side of the conveyor.

44. (New) A method according to claim 36, wherein a number of apparatuses are arranged at a row along the side of the conveyor and are operated by the sensors and by the control unit as a common control unit.